

MACHINE FOR SAWING KINDLING WOOD.—W. A. Allen, Baltimore, Md.—This invention relates to that class of sawing machines in which several circular saws are employed, in connection with endless chains and knees, for carrying the logs.

CIDER PRESS.—John J. Shaffer and Emanuel Stoner, Westminster, Md.—This invention relates to a press, in which the followers slide up and down upon vertical rods, passing through it, one near each of its ends.

FARM GATE.—Daniel Shockey, Waynesborough, Pa.—The object of this invention is to provide for public use a neat, light, simple, and strong gate, for use upon farms, etc., and which can be conveniently opened or closed from either side.

FIRE GRATE.—Asa Snyder, Richmond, Va.—This invention consists of a basket grate and concave perforated radiator, placed in such relation to the chimney and jambs as to leave an air space between the grate and the chimney and jambs, said air space being, in fact, a continuation downward of the smoke flue of the chimney, and being separated from such smoke flue by a damper placed between the radiator and the chimney for the purpose of creating a rapid draft through the air space, and carrying off the debris disengaged by raking the fire.

"FIXING" OR REPAIRING PUDDLING FURNACES.—Morgan Z. Evans, Ormsby Post Office, Pa.—This invention relates to puddling and boiling furnaces, and applies in the process called by furnacemen "fixing," which is performed as occasion may require, in the way of repairs.

REAPING AND MOWING MACHINES.—T. H. Taylor, Jeffersonville, Ill.—This invention relates to improvements in reaping and mowing machines designed to provide an improved arrangement for operating the cutter bars; also, an improved arrangement of the cutter and cutter supporting bars.

KNIFE GUARD.—E. A. Goodes, Philadelphia, Pa.—The invention consists of a wire-guard attachment, so shaped and arranged relatively to the knife blade, that it may be readily clamped to the blade by thumb nuts, screwing on to the ends of the wire and against the back edge of the blade, with the gaging part adjusted along the edge, at one side, parallel with it, and the required distance for the thickness of the paring from it.

HORSE-POWER.—Diffendall & Hughes, Westminster, Md.—The object of this invention is to provide a simple and compact arrangement of multiplying wheels in a portable horse-power, for producing a rapid motion for the tumbling shaft, from the first mover, with the least possible amount of lateral pressure on the driving shaft.

LIFE, SURF, AND OTHER BOATS.—Henry Thompson, Mobile, Ala.—The object of this invention is to provide new and useful improvements in small boats, to render them safe and efficient as life, surf, or pleasure boats. Also, to provide improvements in propelling apparatus, calculated to apply the same to better advantage than in the common way. Also, to provide an arrangement of the paddle wheels and wheel guards, to facilitate the transportation of the said boats on land. Also, to provide an arrangement of pumping devices, which may be used either for pumping water from the hold, or for drawing water over the side, for playing upon fires, or for other purposes.

Answers to Correspondents.

CORRESPONDENTS who expect to receive answers to their letters must, in all cases, sign their names. We have a right to know those who seek information from us; beside, as sometimes happens, we may prefer to address correspondents by mail.

SPECIAL NOTE.—This column is designed for the general interest and instruction of our readers, and for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at \$1.00 a line, under the head of "Business and Personal."

All reference to back numbers should be by volume and page.

A. H. B., of Pa.—A body floating in a fluid medium, and sustaining by its buoyancy just as much weight as it is capable of supporting, would descend through that medium by the addition of just sufficient weight to overcome the friction of the fluid against its sides. It will then certainly take as much (practically more) weight to draw it down through that fluid as it can raise by its buoyancy. In the answer to the correspondent about the balloon, the endeavor was to make this point clear, and to show that a balloon in rising could exert no more force (practically not so much) than would be required to pull it down again.

W. A. H., of Tenn.—The plan of closing a well air tight at its mouth and inserting a pipe to reach below the surface of the contained water, and raising the water by forcing air into the well will work in some cases, but it is neither new, patentable, nor practicable. Because the top of a wheel rolling along a level surface moves faster ahead relatively to any point on that surface than the bottom, it does not follow that its circumferential motion is greater at the top than at the bottom. What we mean by circumferential motion, is the motion of all points in the circumference around the axis of the wheel.

J. A., of Ill.—The photographer has the best of it. The contraction of the pupil of the eye does not diminish the apparent size of external objects. The reason of the apparently larger size of the sun and moon when near the horizon is probably that they are then in immediate contrast with terrestrial objects, by which their size is estimated, while in the zenith no such standard of comparison can be simultaneously viewed with them.

B. J. J., of Va.—We would not recommend the arrangement of piping for a lumber drying-house you propose. "A Practical Treatise on Heat," published by Henry Carey Baird, of Philadelphia, will instruct you properly on this subject. There ought to be good ventilation in any room used for drying purposes. Your last question cannot be answered in the form you put it.

J. B. W., of Pa.—Your suggestions for ventilating mines by forcing air down through a main pipe by steam power, and delivering it through branch pipes, contain nothing new. This is, however, a good plan, and it, or its equivalent, has been tried successfully in English coal mines. We agree with you that either this or some other equally effective system ought to be generally adopted in working coal mines.

J. W. P., of Me.—The best material for a step to a turbine wheel is probably lignum vite. That your steps burn out indicates that the wheel is not balanced properly to take off its weight from the step. If it is not practicable to balance it in this way your only remedy will be to increase the size of the bearing in proportion to the weight of the wheel.

G. M. S., of Miss.—The power of an engine having a twenty-inch stroke would be to one having a thirty-inch stroke, everything else being equal and the steam being worked non-expansively, as one to two. This, of course, supposes everything so arranged that the mean effective pressure in the cylinders should be the same throughout their respective strokes.

F. C. B., of Ohio.—To scale sheet steel, use a wooden trough lined with sheet lead. Use crude sulphuric acid, one part of acid to ten of water, by measure, or rather more dilute, let the sheets remain only a very short time in the bath, take them out and wash them in hot lime water, and then rub them with clean dry saw dust or chaff.

W. Z., of La.—The appearance of gold, copper, or brass, is given to tin plate by the application of suitable lackers. You can purchase these lackers at dealers in varnishes, etc.

F. D. H., of N. Y.—You can dissolve rubber in naphtha to a thick solution and with it stop small holes in rubber. Apply it soft and allow it to harden thoroughly.

G. G. B., of N. H.—The mineral specimen seems a schist containing iron. It appears to be of no value, but analysis might give a different result.

J. D. P., of N. Y.—The broad gage railways are failures only because they are, for various reasons, so expensive in their operation. We can not enter at this time into a detailed account of these causes. They are good for the passengers but hard on the companies who own them.

M. G., of Minn.—Your sketch is very imperfect, but from what we can understand of it, it shows no patentable improvement. It would, therefore, be scarcely worth while to enter into the computation necessary to determine what strain such a structure would sustain.

S. E. W., of N. Y.—Friction would be reduced in using friction rollers under your shaft in proportion to the diminished surfaces of the journals. The size must depend upon the circumstances of the case. Make the rollers as large as you can conveniently.

C. T. G., of Pa.—It would be impossible to give you the knowledge you require in the form of a recipe. A small volume called "The Complete Practical Brewer," published by Henry Carey Baird, of Philadelphia, gives the precise information you require.

J. M. H., of Wis.—We know of no steam apparatus which will meet your requirements and which you can purchase ready made. You might, it seems to us, easily devise one for yourself. Set your wits to work.

R. S. B., of Ky.—The minerals you send appear to contain iron and perhaps copper, with sulphur and arsenic. We cannot determine whether other metals of value are present without making an assay.

M. S. M., of Mo.—The stones you send are agate and chalcedony. They have little value except when worked and polished. They are rendered valuable according to the labor bestowed upon them.

E. H. S., of N. H.—You will find an article fully treating your question about long and short screw drivers in the SCIENTIFIC AMERICAN, Vol. XVIII, No. 25, page 333, June 20, 1868.

Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, One Dollar and a Half per line will be charged.

Send for Agents' Circular—Hinkley Knitting Machine Co., 176 Broadway.

Just what you have been looking for. We build all kinds of experimental machinery and models on short notice and reasonable terms. Henry & Co., 125 Eldridge st., New York.

Wanted—By a man of first-class experience, a situation as electro bright and deal plater and gilder. Good reference. Address R. E. Osborn, Postoffice Box 151, West Meriden, Conn.

A thorough sewing machinist desires employment. Address James R. Ellis, Baltimore, Md.

If you want the real oak-tanned leather-belting, C. W. Army manufactures it. See advertisement.

Peck's patent drop press. For circulars, address the sole manufacturers, Milo Peck & Co., New Haven, Ct.

You can get your patent articles manufactured quick and cheap at Henry & Co.'s, 125 Eldridge st., New York.

Every wheelright and blacksmith should have one of Dinsmore's tire shrinkers. Price \$40. R. H. Allen & Co., P.O. Box 376, New York.

Wanted—A practical machinist and draftsman wants a situation as draftsman. Best recommendation can be given. Address Eugen Walther, 633 Callowhill st., Philadelphia.

Glynn's Anti-Incrustator for Steam Boiler—The only reliable preventative. No foaming, and does not attack metals of boiler. Liberal terms to Agents. C. D. Fredericks, 577 Broadway, New York.

Chemicals, Drugs, Minerals, Metals, Acids, etc., for all Mechanics and Manufacturers, for sale by L. & J. W. Feuchtwanger, Chemists, and Importers of Drugs and Minerals, 55 Cedar st., New York.

Who wants a good 15-in. swing Engine Lathe, address Star Tool Co., Providence, R. I.

For Sale—A valuable pat. for a composition for covering boilers, steam pipes, etc., E. D. & W. A. French, 34 & Vine sts., Camden, N. J.

Cradle-finger Machine wanted by Smith & Montross, Galien, Mich.

Wanted—A set of the best new machinery for converting standing trees into short, split firewood. W. H. H. Green, Jackson, Miss.

Clothes Wringers of all kinds repaired or taken in part pay for the "Universal," which is warranted durable. R. C. Browning, Agent, 32 Courtland st., New York.

For Sale—Cotton Planter.—The entire right of the King Cotton Planter—the only successful in use. Have been worked since the war, and given universal satisfaction. The machine is simple, strong, and can be built cheaply. Will sell at a low figure. Reason for disposing of it is want of time to give it proper attention. Address S. N. Brown & Co., Dayton, O.

Hot Pressed Wrought Iron Nuts, of all sizes, manufactured and for sale at moderate prices by J. H. Sternbergh, Reading, Pa.

Vols., Nos., and Sets of Scientific American for sale. Address Theo. Tusch, No. 37 Park Row, New York city.

Cold Rolled—Shafting, piston rods, pump rods, Collins pat. double compression couplings, manufactured by Jones & Laughlins, Pittsburgh, Pa.

Man'rs of grain-cleaning machinery and others can have sheet zinc perforated at 2c. per sq. ft. R. Aitchison & Co., 845 State st., Chicago. Send for a circular on the uses of Soluble Glass, or Silicates of Soda and Potash, fire and water-proof. Manufactured by L. & J. W. Feuchtwanger, Chemists and Drug Importers, 55 Cedar st., New York.

Mill-stone dressing diamond machine, simple, effective, durable. Also, Glazier's diamonds. John Dickinson, 64 Nassau st., New York.

Leschot's Patent Diamond-pointed Steam Drills save, on the average, fifty per cent of the cost of rock drilling. Manufactured only by Severance & Holt, 16 Wall st., New York.

For solid wrought-iron beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

Machinists, boiler makers, tanners, and workers of sheet metals read advertisement of the Parker Power Presses.

Diamond carbon, formed into wedge or other shapes for pointing and edging tools or cutters for drilling and working stone, etc. Send stamp for circular. John Dickinson, 64 Nassau st., New York.

Facts for the Ladies.

I have one of the Wheeler & Wilson Sewing Machines, which has been in constant use for the past fifteen (15) years. It has never been repaired, and to-day is in perfect order, and is equal, for all kinds of work, to any machine I have yet seen. It has been used in making heavy clothing, besides doing all manner of family sewing, and I think it gets better every day.

MRS. JOAB SCALES.

Toronto, Ontario.

Official List of Patents.

Issued by the United States Patent Office.

FOR THE WEEK ENDING OCT. 5, 1869.

Reported Officially for the Scientific American

SCHEDULE OF PATENT OFFICE FEES:

On each caveat.....	\$10
On filing each application for a Patent (seventeen years).....	\$15
On issuing each original Patent.....	\$30
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In addition to which there are some small revenue-stamp taxes. Residents of Canada and Nova Scotia pay \$500 on application.

For copy of Claim of any Patent issued within 30 years.....\$1
 A sketch from the model or drawing, relating to such portion of a machine as the Claim covers, from upward, but usually at the price above named.....\$1
 The full Specification of any patent issued since Nov. 20, 1866, at which time the Patent Office commenced printing them.....\$1.25
 Official Copies of Drawings of any patent issued since 1836, we can supply at a reasonable cost, the price depending upon the amount of labor involved and the number of views.
 Fulling information, as to price of drawings, in each case, may be had by addressing
MUNN & CO.,
 Patent Solicitors, No. 37 Park Row, New York.

- 95,405.—COMPOSITION FOR MAKING TYPES FOR PRINTING WALL PAPER, GILCOLOPH, AND OTHER FABRICS.—E. A. Adams, New York city.
- 95,406.—SAWING MACHINE.—W. A. Allen, Baltimore, Md.
- 95,407.—MEDICAL COMPOUND OR CORDIAL.—Joseph Ambrose, Nashville, Tenn.
- 95,408.—HAY LOADER.—Isaac Anderson, Poland, Ohio.
- 95,409.—BINDING GUIDE FOR SEWING MACHINE.—E. F. Angell, Chicago, Ill.
- 95,410.—HAMES FASTENER.—H. W. Austin and E. C. Perry, Portage township; Edwin C. Perry, assignor to G. T. Nash, Kalamazoo Mich.
- 95,411.—COTTON PRESS.—Augustine Baldwin, New York city. Antedated Sept. 22, 1868.
- 95,412.—APPARATUS FOR CARBURETING AIR AND GAS.—Arthur Barbarin, New Orleans, La.
- 95,413.—DEVICE FOR STEAMING ROVINGS.—Solomon Barber, South Coventry, Conn.
- 95,414.—BAND CUTTER.—W. C. Barr and E. J. Hunkins, Mason City, Mo.; said Hunkins assignor to said Barr for his right. Antedated Sept. 22, 1868.
- 95,415.—WASHING MACHINE.—B. B. Beers and Nathan Couch, New Fairfield, Conn.
- 95,416.—HAY AND COTTON PRESS.—John Berkeley, Washington, Texas.
- 95,417.—SHAFT COUPLING FOR CARRIAGES.—Albert Betteley, Boston, Mass.
- 95,418.—MACHINE FOR SOLDERING TIN CANS.—J. G. Bowen, Brewster Station, N. Y.
- 95,419.—PURIFYING IRON AND STEEL, OR OTHER METAL.—Edward Brady, Philadelphia, Pa.
- 95,420.—RIM PRESS AND TIRE HEATER.—J. H. Britton, Painesville, Ohio.
- 95,421.—TABLE SLIDE.—Aaron Brower (assignor to himself and C. S. Hall), Rochester, N. Y. Antedated Sept. 15, 1868.
- 95,422.—COTTON-THINNING MACHINE.—I. W. Burch, Fayette Miss.
- 95,423.—THRASHING MACHINE.—Duncan Campbell, Indian Town, Ill.
- 95,424.—SAFETY PIN FOR SECURING CLOTHING.—Frederick Catlin, New York city.
- 95,425.—DYERS' VAT.—H. Champenois, New York city.
- 95,426.—ATTACHMENT FOR WINDOW SASH CORDS.—S. N. Chapin, New Britain, Conn.
- 95,427.—STUMP EXTRACTOR.—Daniel S. Chapman, Conneaut, Ohio.
- 95,428.—REFRIGERATOR.—A. J. Chase (assignor to B. F. Horn), Boston, Mass.
- 95,429.—COOKING STOVE.—B. F. Clement (assignor to C. H. Buck and W. S. Wright), St. Louis, Mo.
- 95,430.—HAMES FASTENER.—J. Clendenning, Rockford, Ill.
- 95,431.—RAILWAY CAR COUPLING.—Michael Connelly (assignor to himself and H. W. Rogers), Baltimore, Md.
- 95,432.—HERNIA TRUSS.—D. J. Cooper, New Orleans, La.
- 95,433.—TRUSS AND SUPPORTER.—D. J. Cooper, New Orleans, La.
- 95,434.—RAILWAY CAR COUPLING.—Wm. Cottrell (assignor to himself and F. G. Wiese), Bordentown, N. J.
- 95,435.—LATHING MACHINE.—George N. Creamer, Trenton, N. J.
- 95,436.—BEEHIVE.—L. H. Critchfield, Shrevee, Ohio.
- 95,437.—SPRING FOR GANG PLOWS.—H. N. Dalton, Pacheco, Cal.
- 95,438.—WRENCH.—A. B. Davis, Pleasantville, Pa.
- 95,439.—HAY DERRICK.—Winfield Denton, Iowa City, Iowa.
- 95,440.—HORSE POWER.—Joseph Diffendall and S. Hughes, Westminster, Md.
- 95,441.—METHOD OF FORMING MOLDINGS.—Joseph Dill and E. Rice, Grand Rapids, Mich.
- 95,442.—BAND FOR BOOMS AND GAFFS.—David Dryburgh, Philadelphia, Pa. Antedated Sept. 20, 1868.
- 95,443.—RAILROAD SPIKE.—P. J. Dwyer, Elizabethport, N. J.
- 95,444.—BOILER FEEDER ALARM DEVICE.—J. W. Ebert and E. C. McCloy, Zanesville, Ohio.
- 95,445.—APPARATUS FOR EVAPORATING AND DECOMPOSING LIQUIDS.—Albert Eckstein (assignor to "Zienks Ritter Von Wessely"), Vienna, Austria.
- 95,446.—TURN TABLE.—L. W. Emmart and E. D. Griffith, Washington, D. C.
- 95,447.—BALING PRESS.—C. J. Emmett, New York city.
- 95,448.—HOISTING MACHINE.—Wm. Eppelsheimer (assignor to himself and E. A. Trapp), San Francisco, Cal.
- 95,449.—SNOW PLOW.—C. L. Ericzon, Salt Lake, Utah Territory.
- 95,450.—FIXING PUDDLING AND BOILING FURNACES.—M. Z. Evans, Ormsby, Pa. Antedated Oct. 1, 1868.
- 95,451.—HAY RAKER AND LOADER.—Newton Farlow and J. A. Ham, Sullivan, Ill.
- 95,452.—DEVICE FOR SUPPORTING THE SHAFTS OF VEHICLES.—Rubin Fink and Reuben Daveler, Lancaster, Pa.
- 95,453.—WHEELED CULTIVATOR AND PLOW.—Sam'l Fisher, Hightstown, N. J.
- 95,454.—SAUSAGE STUFFER.—Charles Forschner, New York city.
- 95,455.—TOY TOP.—Henry Foulkes, Utica, N. Y.
- 95,456.—BEARING FOR SPINDLES IN SPINNING MACHINES.—J. B. Fuller, Norwich, Conn. Antedated Sept. 16, 1868.
- 95,457.—ATTACHING HANDLES TO CUTLERY.—J. W. Gardner (assignor to "Lamson and Goodnow Manufacturing Co."), Shelburne Falls, Mass.
- 95,458.—HARROW.—D. L. Garver, Hart township, Mich.
- 95,459.—MANUFACTURE OF COAL GAS.—Wm. Gibson, Cambridge, Mass.
- 95,460.—LAMP BURNER.—E. L. Gilman (assignor to himself and F. Houghton), Somerville, Mass.
- 95,461.—HOT-AIR FURNACE.—B. Gommenginger and C. W. Trotter, Rochester, N. Y.
- 95,462.—MACHINE FOR DRAWING FLAX, ETC.—John Good, Brooklyn, E. D., N. Y.
- 95,463.—KNIFE GUARD.—E. A. Goodes (assignor to the Philadelphia Patent and Novelty Co.), Philadelphia, Pa.
- 95,464.—WASH BOILER.—S. A. Goodwin, Buffalo, N. Y.
- 95,465.—PROCESS OF PREPARING ALIZARINE.—Chas. Graeb, Frankfurt-on-the-Main, and Charles Liebermann, Berlin, Prussia.
- 95,466.—CARRIAGE SEAT.—S. P. Graham, Columbus, Ohio.
- 95,467.—HARROW.—P. S. Graves and P. B. Parcell, Ashmore Ill.